

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for generating the ~~generation~~, in a given direction of emission, ~~[[of]]~~ radiation in a desired range of wavelengths, ~~where the~~ said process comprising includes:

~~[[-]]~~ ~~the production~~ producing beams of initial radiation by a radiation source whose wavelengths include the ~~said~~ desired range,

~~[[-]]~~ filtering ~~[[of]]~~ the beams of ~~said~~ initial radiation, ~~so as~~ to substantially eliminate the beams of ~~the~~ initial radiation whose wavelength is outside the ~~said~~ desired range,

~~characterised in that the~~ wherein said ~~filtration~~ filtering is effected by introducing a controlled distribution of the refraction index of the beams in a control region that is traversed by the initial radiation, ~~so as~~ to selectively deflect the beams of the initial radiation according to their wavelength, and to recover the beams of a desired wavelength.

2. (Currently Amended) A process according to claim 1 wherein the ~~preceding claim, characterised in that the~~ ~~said~~ controlled distribution of the refraction index of the beams is obtained by controlling ~~[[the]]~~ electron density distribution in the ~~said~~ control region.

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3. (Currently Amended) A process according to claim 2 wherein the ~~preceding claim, characterised in that the said~~ control region is located in a plasma.

4. (Currently Amended) A process according to claim 3 wherein the ~~preceding claim, characterised in that the said~~ plasma containing the ~~said~~ control region is itself contained in a chamber associated with the ~~said~~ radiation source.

5. (Currently Amended) A process according to claim 4 wherein ~~one of the two preceding claims, characterised in that~~ electron density control is effected ~~so as~~ to obtain an electron density which is greater at a distance from a median initial radiation emission line than it is on the ~~said~~ median initial radiation emission line.

6. (Currently Amended) A process according to claim 5 wherein the ~~preceding claim, characterised in that the said~~ median initial radiation emission line is a straight initial radiation line, and the ~~said~~ initial radiation is produced by the ~~said~~ radiation source with a generally ~~more or less~~ axi-symmetrical distribution around the ~~said~~ straight initial radiation line.

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7. (Currently Amended) A process according to claim 6 ~~wherein the preceding claim, characterised in that, in order~~ to obtain the said electron density distribution, an input of energy is applied to the said plasma along the said median emission line of the initial radiation.

8. (Currently Amended) A process according to claim 7 ~~wherein the preceding claim, characterised in that the said~~ input of energy is effected by ~~ionisation~~ ionization of the plasma along the said median emission line of the initial radiation.

9. (Currently Amended) A process according to claim 8 ~~wherein effecting the preceding claim, characterised in that, to effect the said~~ ~~ionisation~~ ionization, comprises the following operations are required:

[[-]] ~~establishment of~~ establishing an electric voltage at the terminals of the chamber containing the plasma, the said terminals being spaced according to the direction generally defined by the said median emission line of the initial radiation, and

[[-]] ~~application of~~ applying an energy beam to the said median initial radiation emission line.

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10. (Currently Amended) A process according to claim 1 ~~wherein one of the preceding claims, characterised in that~~, in order to recover the beams of a desired wavelength, there is at least one window downstream of the ~~said~~ control region to selectively pass beams in the desired wavelength range.

11. (Currently Amended) A process according to claim 10 ~~wherein the preceding claim, characterised in that~~ each window is positioned on the ~~said~~ median initial radiation emission line, with a curvilinear abscissa corresponding to the place of intersection of the ~~said~~ beams in the desired wavelength range which were deflected with the ~~said~~ median initial radiation emission line.

12. (Currently Amended) A process according to claim 11 ~~wherein the one of the preceding claims, characterised in that the said~~ desired range of wavelengths falls within the interval [0-100 nm].

13. (Currently Amended) A process according to claim 12 ~~wherein the preceding claim, characterised in that the said~~ desired range of wavelengths falls within the EUV spectrum.

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14. (Currently Amended) A device for the generation of radiation in a desired range of wavelengths, in a given direction of emission, where the ~~said~~ device comprises ~~includes~~:

[[-]] a source of initial radiation whose wavelengths include the ~~said~~ desired range,

[[-]] filtering resources of the ~~said~~ initial radiation, ~~so as~~ to substantially eliminate the beams of initial radiation whose wavelength is outside the ~~said~~ desired range,

~~characterised in that the~~ wherein said filtering resources include ~~the~~ means to introduce a controlled distribution of the refraction index of the beams in a control region that is traversed by the initial radiation, ~~so as~~ to selectively deflect the beams of the initial radiation according to their wavelength, and to recover the beams of a desired wavelength.

15. (Currently Amended) A device according to claim 14 wherein ~~the preceding claim, characterised in that the~~ said means to introduce a controlled distribution of the refraction index comprises ~~includes~~ resources to control the electron density distribution in the ~~said~~ control region.

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16. (Currently Amended) A device according to claim 15 ~~wherein the preceding claim, characterised in that the said~~ control region is located in a plasma.

17. (Currently Amended) A device according to claim 16 ~~wherein the preceding claim, characterised in that the said~~ plasma containing the ~~said~~ control region is itself contained in a chamber associated with ~~the~~ said radiation source.

18. (Currently Amended) A device according to claim 17 ~~wherein one of the two preceding claims, characterised in that the said~~ resources to control the electron density distribution can achieve ~~are capable of achieving~~ an electron density which is greater at a distance from a median initial radiation emission line than it is on the ~~said~~ median initial radiation emission line.

19. (Currently Amended) A device according to claim 18 ~~wherein the preceding claim, characterised in that the said~~ median initial radiation emission line is a straight initial radiation line, and ~~the~~ said resources to control the electron density distribution ~~are capable of achieving~~ can achieve an electron density that is generally ~~more or less~~ axi-symmetrical around the ~~said~~ straight initial radiation line.

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20. (Currently Amended) A device according to claim 19 ~~wherein the preceding claim, characterised in that the~~ said resources to control the electron density distribution include resources for injecting energy into ~~the~~ said plasma along the ~~said~~ median initial radiation emission line.

21. (Currently Amended) A device according to claim 20 ~~wherein the preceding claim, characterised in that the~~ said resources for injecting energy includes resources for ~~ionisation~~ ionization of the plasma along the ~~said~~ median initial radiation emission line.

22. (Currently Amended) A device according to claim 21 ~~wherein the preceding claim, characterised in that the~~ said resources for injecting energy ~~includes~~ comprise resources to:

[[-]] establish an electric voltage at the terminals of the chamber containing the plasma, the ~~said~~ terminals being spaced in the general direction defined by the ~~said~~ median initial radiation emission line, and

[[-]] apply an energy beam to the ~~said~~ median initial radiation emission line.

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23. (Currently Amended) A device according to claim 14 ~~comprising one of the nine preceding claims, characterised in that the device includes~~, downstream of the ~~said~~ control region, at least one window to selectively pass beams in the desired wavelength range.

24. (Currently Amended) A device according to claim 23 ~~wherein the preceding claim, characterised in that~~ each window is positioned on the ~~said~~ median initial radiation emission line, with a curvilinear abscissa corresponding to ~~the~~ a place of intersection of the ~~said~~ beams in the desired wavelength range which were deflected with the ~~said~~ median initial radiation emission line.

25. (Currently Amended) A device according to claim 24 ~~wherein one of the two preceding claims, characterised in that~~ the device includes an additional multi-layer filtration mirror in association with at least some windows.

26. (Currently Amended) A device according to claim 25 ~~comprising the preceding claim, characterised in that the device includes a~~ multiplicity of modules which each include a source of initial radiation and associated filtering resources, ~~as well as~~ and an optical resource ~~that can be used~~ useable to collect the radiation subjected to filtration, in order to re-direct it outside of the device.

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27. (Currently Amended) A device according to claim 26 wherein the preceding claim, characterised in that the said optical resource is a multi-layer mirror which ~~is also capable of finalising~~ can finalize filtration of the ~~said~~ radiation.

28. (Currently Amended) A device according to claim 14 wherein one of the fourteen preceding claims, characterised in that the said desired range of wavelengths falls within the interval [0-100 nm].

29. (Currently Amended) A device according to claim 28 wherein the preceding claim, characterised in that the said desired range of wavelengths falls within the EUV spectrum.

30. (Currently Amended) A lithography device that includes a generation device according to claim 29 ~~one of the sixteen preceding claims.~~

31. (New) A process according to claim 3 wherein electron density control is effected to obtain an electron density which is greater at a distance from a median initial radiation emission line than it is on the median initial radiation emission line.

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32. (New) A process according to claim 31 wherein the median initial radiation emission line is a straight initial radiation line, and the initial radiation is produced by the radiation source with a generally axi-symmetrical distribution around the straight initial radiation line.

33. (New) A process according to claim 32 wherein to obtain the electron density distribution, an input of energy is applied to the plasma along the median emission line of the initial radiation.

34. (New) A process according to claim 33 wherein the input of energy is effected by ionization of the plasma along the median emission line of the initial radiation.

35. (New) A process according to claim 1 wherein the desired range of wavelengths falls within the interval [0-100 nm].

36. (New) A process according to claim 35 wherein the desired range of wavelengths falls within the EUV spectrum.

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37. (New) A device according to claim 16 wherein said resources to control the electron density distribution can achieve an electron density which is greater at a distance from a median initial radiation emission line than it is on the median initial radiation emission line.

38. (New) A device according to claim 37 wherein the median initial radiation emission line is a straight initial radiation line, and said resources to control the electron density distribution can achieve an electron density that is generally axi-symmetrical around the straight initial radiation line.

39. (New) A device according to claim 38 wherein said resources to control the electron density distribution include resources for injecting energy into said plasma along the median initial radiation emission line.

40. (New) A device according to claim 39 wherein said resources for injecting energy includes resources for ionization of the plasma along the median initial radiation emission line.

41. (New) A device according to claim 40 wherein said resources for injecting energy comprise resources to:

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establish an electric voltage at the terminals of the chamber containing the plasma, the terminals being spaced in the general direction defined by the median initial radiation emission line, and

apply an energy beam to the median initial radiation emission line.

42. (New) A device according to claim 23 wherein the device includes an additional multi-layer filtration mirror in association with at least some windows.

43. (New) A device according to claim 42 comprising a multiplicity of modules which each include a source of initial radiation and associated filtering resources, and an optical resource useable to collect the radiation subjected to filtration, in order to re-direct it outside of the device.

44. (New) A device according to claim 43 wherein said optical resource is a multi-layer mirror which can finalize filtration of the radiation.

45. (New) A lithography device that includes a generation device according to claim 14.